HUNTERS POINT NAVAL SHIPYARD
BASE REALIGNMENT AND CLOSURE CLEANUP TEAM
MEETING NOTES
December 4, 2014

These notes summarize the meeting of the Navy Base Realignment and Closure (BRAC) Cleanup Team (BCT) for Hunters Point Naval Shipyard (HPNS). The meeting was held at 10:00 a.m. on December 4, 2014 at CH2M HILL's office in Oakland, California. Mr. George Chow was introduced as the new Project Manager for the Department of Toxic Substances Control (DTSC).

I. Introductions, Meeting Guidelines, Agenda Review, and Meeting Minutes

Thomas Macchiarella (Navy) began with introductions; participants are listed on the last page of this summary. The action items from October were completed. Lily Lee (U.S. Environmental Protection Agency [USEPA]) noted that USEPA is evaluating hydrasleeves and will send information along to the Navy for consideration.

II. Radiological Program Update (Chris Yantos, Navy)

- All of the Parcel C Phase II Ship Berth Surveys have been completed. The Navy has removed 14,000 linear feet of the sewer and storm drains and all of the 29 trench survey units have been backfilled. The Navy has also completed installation of the drainage system along Lockwood and Blandy Streets.

- Survey characterizations at Buildings 211 and 253, were completed in August 2014. Thirty-five survey units exceeded the release criteria and four survey units were not accessible due to safety concerns and therefore not characterized. Those four survey units will first need to be demolished followed by a survey of the building materials. Cleanup and removal of the survey units that exceed release criteria will be completed under a different contract.

- In Parcel E for the I Street removal, the Navy has removed of 7,642 linear feet of the sanitary and storm drain systems. All 16 trench units have been backfilled and the Navy has completed installation of the drainage system along I Street and 3rd Avenue.

- In Parcel D-1, Phase I, the Navy is awaiting unrestricted radiological release for the Gun Mole Pier following California Department of Public Health (CDPH) analysis of confirmation samples and confirmation surveys conducted on March 18, 2014.

- At Parcel D-1, all Phase II scoped fieldwork is completed which included removal and disposal of the railroad ties. CDPH issued the Navy a memorandum on November 24, 2014 that suspended the free-release letter for Building 521 based on questions concerning instrumentation scan speeds. The Navy is working with CDPH to resolve the issue.

- Upcoming regulatory documents include the draft Parcel D-1 ship berths in January 2015 and the draft survey unit project report abstract for Parcel C NORM and background study in February 2015.

III. Parcel UC-3 Path Forward (Becky Cardoso, Navy)

- Parcel UC-3 contains Crisp Road and the railroad right-of-way. Groundwater volatile organic compound (VOC) plumes in the area have impacted soil gas beneath Parcel UC-3.

- The plume at Installation Restoration Site (IR)-56 was initially identified by a detection of trichloroethene (TCE) in monitoring well IR74MW01A. The current TCE concentration is non-detect and the concentrations of TCE do not exceed the cancer risk numbers for a construction worker scenario. The pathway of concern for the IR-56 plume (vapor intrusion) would be addressed by the soil gas remedial action objectives for Parcel UC-3.

- The current groundwater alternative documented in the UC-3 Record of Decision (ROD) is in-situ bioremediation, monitored natural attenuation, long-term monitoring and maintenance, and institutional controls (ICs). Based on the current concentrations of TCE in groundwater at this location, in-situ bioremediation and monitored natural attenuation do not need to be implemented.

- The Navy is proposing to identify chemical of concern-based success criteria for in-situ bioremediation and monitored natural attenuation and then demonstrate compliance with those criteria. Future monitoring of monitoring well IR74MW01A will be conducted via the basewide groundwater monitoring program. ICs would restrict domestic use of groundwater in the area and the vapor intrusion would be addressed via the soil gas remedial action objectives and future soil gas evaluations. Ross Steenson (Water Board) asked that the groundwater monitoring at the site extend until at least the soil gas investigations are completed. Catherine Haran (Navy) noted that the Navy would continue to monitor this site until at least the Remedial Action Closure Report was issued and possibly beyond that. Lily Lee (USEPA) asked the City of San Francisco about the planned reuse. Amy Brownell (City of San Francisco) noted that this site will likely continue to be a road; however, it can be used for mixed use. Ms. Lee asked about depth to bedrock in this area. The Navy responded that bedrock is at roughly 15 feet below ground surface. The Navy will provide a cross-section of Parcel UC-3 to the BCT members for consideration.

- Several steam lines have historically been investigated and addressed at Parcel UC-3. The Navy does not believe that steam lines at UC-3 present a risk because the steam lines in both Parcels C and D were investigated and the impacted lines were closed or removed. The impacted lines were located approximately 1,200 feet downgradient of the steam lines in Parcel UC-3. The steam lines in Parcel UC-3 were inspected in 1998 and no evidence of contamination was noted. Jeff Austin (Geosyntec) asked what the steam lines were made of, and if they are transite pipe how do the agencies approach cleanup or removal of this type of pipe. The Navy doesn't know what the steam line pipe is made of but will find out and report back to the BCT. The DTSC believes that transite pipe (if that is what is present) falls under a compliance issue rather than a cleanup issue.

- The remedial design will include a demonstration of natural attenuation of groundwater, a plan for soil excavation and disposal, a No Further Action rationale with respect to the steam lines, a soil gas survey, placement and operation and maintenance of a durable cover, groundwater monitoring, and ICs. Since the remedial design has been scaled back, the Navy would like

submit one draft version of the remedial design with a 45-day regulatory review time and standard agency response to comments. The draft remedial design would be issued in June 2015. The agencies agreed to this revised schedule.

IV. Parcel C, RU-C2 Groundwater Remedial Action Update (Tony Konzen, Navy)

- The Navy presented a summary of the remedial action groundwater performance monitoring at the C2-1 and C2-2 plumes, the backfilling and shoring removal at Excavation 20A-1, and soil vapor extraction (SVE) infrastructure installation at RU-C2.

- Based on the current findings, the Navy proposes to continue groundwater monitoring of the plume on the north side of the building under the basewide groundwater monitoring program to evaluate concentration trends with time and remedial action effectiveness at the C2-2 ground plume at Building 258. The Navy plans to characterize carbon tetrachloride in the vicinity of well IR28MW190F on the south side of Building 258 and potentially treat this area.

- At Building 251 or groundwater plume C2-1, the Navy will confirm degradation of tetrachloroethylene (PCE) and daughter products to below remedial goals. The Navy will also confirm that observed increases of 1,2-dichlorobenzene and chlorobenzene are transitory. The Navy will conduct additional characterization of the B-aquifer PCE hotspot discovered at MW1B and inject zero-valent ions (ZVI) into the area with the highest concentrations.

- The backfill and shoring removal at excavation 20A-1 was completed in November 2014. The infrastructure installation for the SVE system at RU-C2 was completed in September – October 2014.

V. Parcel C, RU-C1, C4, and C5 Groundwater Remedial Action Update (Tony Konzen, Navy)

- The Navy presented performance monitoring trends based on six sampling events at RU-C1, C4, and C5. The sampling schedule will run through March 2015. Tony Konzen noted that some wells couldn't be sampled because they are at low points and currently submerged due to recent rains. Ms. Lee asked how the stormwater best management practices (BMPs) are holding up with the recent storms. The Navy will talk to their contractors and report back to the BCT on the performance of the BMPs. The groundwater trends indicate that concentrations of groundwater chemicals of concern are decreasing and producing daughter products. At Building 134 Area/RU-C5, the Navy is anticipating receiving agency comments on the draft Work Plan Addendum by December 12, 2014 and conducting the field investigation of the groundwater plumes at C5-1, C5-4 and C5-5 in February – March 2015.

VI. Parcel C Soil Vapor Extraction Remedial Action Update (Tony Konzen, Navy)

- The Navy presented the initial treatment performance results and reviewed the optimization and shutdown evaluation criteria. The Navy currently has five areas undergoing SVE treatment in Parcel C. SVE operations began in August 2014 and operation and maintenance activities include weekly sampling and monitoring. The first performance sampling was conducted in October 2014.

- At SVE Area 1, the Navy installed 15 vapor monitoring wells. Influent VOC concentrations remained relatively stable during operation, a total of 0.8 pounds of VOCs have been removed so far, and the TCE concentrations decreased by more than 99 percent at three of the monitoring points.

- At SVE Area 3, the Navy has encountered significant water entrainment at four of the SVE wells which has caused periodic shutdowns. The vacuum and flow have been decreased to reduce groundwater entrainment. Influent concentrations of VOCs have remained stable and 2.5 pounds of VOCs have been removed.

- At SVE Areas 6 and 7, the Navy has also seen water entrainment lead to periodic shut-downs before the flow and vacuum were reduced. Influent concentrations of VOCs have remained stable and 1.1 pounds of total VOCs have been removed from both areas. At Area 6, TCE concentrations have decreased by 48-81 percent at the monitoring points. At SVE 7, TCE concentrations decreased by 90-98 percent at the monitoring points.

- At SVE Area 8, water entrainment in the SVE wells has caused periodic system shut-downs. To date, 7.7 pounds of VOCs have been removed from the subsurface. TCE concentrations have decreased 76-98 percent at the monitoring points.

- The optimization approach will be implemented when influent VOC mass removal reaches asymptotic conditions for three consecutive months. The Navy may use cycling, pulsing, or passive air diffusion to optimize SVE operation and enhance the VOC mass removal. Following optimization, the Navy will temporarily shut down the system to allow for rebound sampling. The Navy is proposing that the threshold for shutting down the SVE system be when VOC levels are lower than soil gas action levels or within 10 percent over a six-month period. If VOC concentrations are greater than soil gas action levels at the five-year review, the overall soil vapor concentration trends may be used to assess the need for continued operation or evaluate alternative treatment.

- The Navy will continue to operate the SVE until asymptotic conditions are reached. All the SVE data will be presented in the Parcel C Remedial Action Closure Report.

VII. A Case Study: Carbon Amendments (Victoria Kirtay, Navy)

- Victoria Kirtay (Space and Naval Warfare Systems Command [SPAWAR]) presented an overall monitoring effectiveness of in-situ treatment with reactive amendments of contaminated sediments in an active Department of Defense (DoD) harbor. The active deep-water DoD harbor posed significant difficulties for cleaning up polychlorinated biphenyl (PCB) contamination in the sediment. The purpose of the study was to demonstrate and validate placement, stability, and performance of reactive amendments for treatment of contaminated sediments.

- The study used an amendment containing coated aggregate/sand particles to achieve placement. Approximately 140 tons of amendment was used, which resulted in a 1.8-inch layer of amendment once distributed to the sediment. The amendment was placed over 0.5 acre in a location both beside and beneath a pier.

- The Navy used an articulated conveyor operating from a flat deck barge to distribute the amendment. The conveyor extended underneath the pier during low tide.

- The Navy conducted baseline sampling for physical, chemical, and biological indicators for comparison with post-amendment monitoring. After 15 days, approximately 70 percent of the target area had received the target thickness, which stayed consistent through the 10-month monitoring event. Some amendment shifted towards the south, likely from activities in the harbor and wave action.

- The Navy documented an increase in total organic carbon and n black carbon in sediment. The total PCB concentrations in both clams and worms decreased by 80 percent. Concentrations of freely dissolved total PCBs in porewater sediment decreased by almost 90 percent. There were no community-level effects on the annelid population, post-amendment diversity increased due to decline in nematode population, and species richness was not affected by amendment applications.

- In summary, placement of the amendment was successful, PCB availability was reduced by 80-90 percent in the 10-month monitoring period, and there were no adverse impacts to the native benthic invertebrate community.

VIII. Action Items/Future Meetings (Catherine Haran, Navy)

New Action Items:

- The Navy will send the cross-sections for Parcel UC-3 to the BCT members.

- The Navy will report back to the BCT regarding the material used for construction of the steam lines at Parcel UC-3.

- The USEPA will let the Navy know if there will be vacation issues associated with the signing of the Finding of Suitability to Transfer for Parcels G, UC-1, and UC-2.

- The Navy will report back to the BCT regarding the performance of the storm water BMPs following the recent rain activity.

Next Meetings:

- The next BCT meeting will be held on January 15, 2015 at CH2M HILL's office in Oakland, CA.

- The February BCT meeting is tentatively scheduled to be held at the BRAC office in San Diego, CA.

Meeting participants:

Alfonso Ang, AMEC	Hamide Kayaci, Navy*
Jeff Austin, Geosyntec	Tim Kemper, CB&I

Karla Brasaemle, TechLaw*
Amy Brownell, City of SF
Becky Cardoso, Navy*
George Chow, DTSC
Brian Dow, Alliance*
Jamie Egan, CH2M HILL
Tony Encarnacion, Navy
Catherine Haran, Navy
Leslie Howard, Navy*
Bob Hunt, Alliance Compliance
Danielle Janda, Navy
Tracey Jue, CDPH*
Ed Kilduff, CE2*
Victoria Kirtay, Navy*
Tony Konzen, Navy
Lily Lee, USEPA
Leslie Lundgren, CH2M HILL
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Reggie Paulding, Navy*
Dorinda Shipman, Langan
Matt Slack, Navy RASO*
Ross Steenson, Water Board
Denise Tsuji, DTSC
Chris Yantos, Navy

* Indicates attendee participated via telephone